STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING

GRETCHEN WHITMER
GOVERNOR

DANIEL EICHINGER
ACTING DIRECTOR

March 20, 2023

VIA EMAIL and U.S. MAIL

Jim Saric
Remedial Project Manager
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (S-6J)
Chicago, Illinois 60604-3511

Dear Jim Saric:

SUBJECT: Michigan Department of Environment, Great Lakes, and Energy (EGLE) comments on the Draft Area 6 Phase 1 Field Sampling Plan (FSP) (Draft Phase 1 FSP), dated February 17, 2023, Operable Unit 5 (OU5), Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site (Site).

By way of this correspondence, EGLE formally submits this cover letter and detailed comments (attached) on the subject Draft Phase 1 FSP for inclusion in the Administrative Record for the Site.

EGLE appreciates the opportunity to review and comment on the subject FSP for OU5. If you have any questions, please contact Daniel Peabody, Environmental Quality Analyst, Remediation and Redevelopment Division at 517-285-3924; PeabodyD@Michigan.gov; or EGLE, P.O, Box 30426, Lansing, Michigan 48909-7926

Sincerely,

Daniel Peabody
Environmental Quality Analyst
Superfund Section
Remediation and Redevelopment Division

cc/att:

Greg Baker, National Oceanic and Atmospheric Administration
Dr. Keegan Roberts, CDM Smith
Lisa Williams, United States Fish and Wildlife Service
Matt Diana, MDNR
Brian Gunderman, MDNR
Mark Mills, MDNR
David Kline, EGLE
Joseph Walczak, EGLE

Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site
Phase 1 Field Sampling Plan, Area 6, Operable Unit 5
February 17, 2023

GENERAL COMMENTS

Commenting Organization: EGLE **Commenter:**
General Comment #1: EGLE and the US EPA provided preliminary comments on the Area 6 Supplemental Remedial Investigation (SRI) Field Sampling Plan (FSP) Phase 1 (Phase 1 FSP) to Georgia-Pacific (GP) on February 9, 2023. A copy of EGLE's preliminary comments is attached.

The Phase 1 FSP was delivered on February 17, 2023, and a supplemental figure set was provided a few days later. The Phase 1 FSP that was delivered appears to have incorporated some of the preliminary comments that were provided, but a formal response to the preliminary comments was not included in the submittal. Submit a response to the preliminary comments from the US EPA and EGLE. Revise the document accordingly.

Commenting Organization: EGLE **Commenter:**
General Comment #2: Statements made regarding the relatively static water levels in Lake Allegan are misleading. First, as noted in the SRI/FS Work Plan, operations before 2010 may have been different than recent operations, and conditions prior to 2010 are not known. Next, the Federal Energy Regulatory Commission (FERC), which is the Agency responsible for regulating conditions (i.e., water levels) at Calkins Dam, wasn't established until 1977 and the peak PCB discharge from the paper mills occurred from 1954 until 1971. Lastly, there have been instances in the recent past when the level of Lake Allegan had to be actively managed (lowered), including during the Enbridge Oil Spill.

The Conceptual Site Model needs to be sharpened. Strategies in the FSP must be updated to incorporate uncertainties associated with water level management, which is a key mechanism for the transport and accumulation of contaminated sediments into the riverbanks and floodplains. Revise the document accordingly.

Commenting Organization: EGLE **Commenter:**
General Comment #3: The proposed site boundary appears to follow an elevation contour of the lake bottom and is based on results of hydrodynamic modeling. This approach seems reasonable given that data is generally limited to bathymetry and sampling to define the site boundary has not been completed. However, based on EGLE's review of the proposed site boundary it appears that low lying elevations should be included in the boundary have instead been omitted. See Specific Comment #

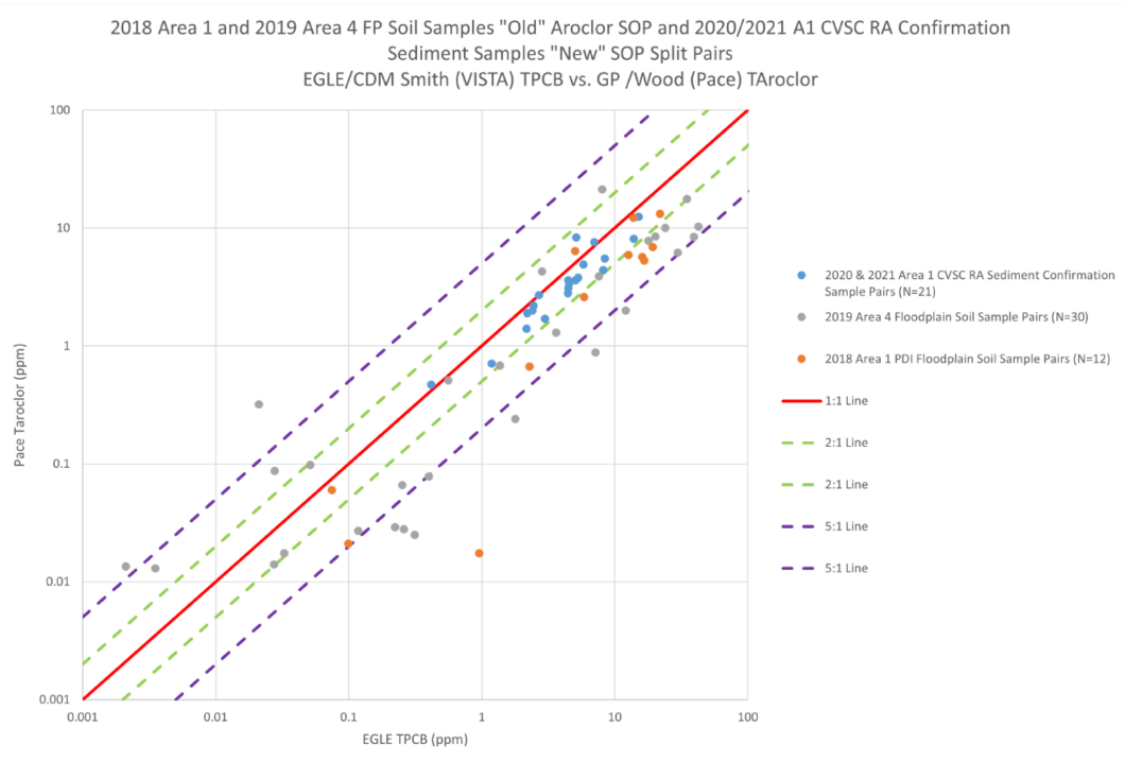
Ultimately, the site boundary will need to be refined through the collection of additional data during the SRI/FS process above and below the elevation contour that is currently being proposed as the site boundary.

Commenting Organization: EGLE **Commenter:**
General Comment #4: EGLE has previously communicated concern that there may be a low bias in total PCB concentrations reported by Georgia-Pacific's (GP's) laboratory. EGLE suspected there may be a substantial and systemic low bias in GP's Aroclor results after splits of samples collected by GP and provided to EGLE during the Area 1 Pre-Design Investigation (PDI) showed a significant low bias when GP's total PCBs via the Aroclor method (Method 8082) to EGLE's total PCB via the congener method. In 2019, an investigation in Area 4 completed by the EPA and GP definitively

concluded that GP's total PCB measurements are biased low and significant adjustments to the analytical methodology was necessary. Following the Area 4 sampling, the US EPA spent extensive resources and involved regional and national technical experts to evaluate and compare analytical methodologies amongst labs and attempt to standardized laboratory procedures. The result of this painstaking effort was the development of a site-specific standard operating procedure (SOP) for laboratories that use Method 8082 for analysis of sediments and soils.

An insignificant problem would not have warranted such a significant effort, and we are grateful for the time that was devoted to this issue. As shown in the 1-1 plot below, the adoption of the site-specific SOP for M8082 has markedly improved the quality of data being generated by GP's lab and it is clear that data collected before and after implementation of the SOP are different. The plot shows that the measured Aroclor result for the parent sample analyzed by GP's lab under the "new" SOP is still generally less than the measured total PCB concentration for the split sample analyzed by EGLE's lab, however; the magnitude of the bias in samples analyzed using the "new" SOP is significantly less than the magnitude of the bias in samples analyzed using the "old" SOP.

Going forward there is a need to ensure that data collected under the site-specific SOP is accurate over time and space, and across laboratories. There is also a need to figure out how to handle and integrate data that is biased low with other datasets, including data that was collected from Area 6 under various work plans aimed at evaluating natural recovery. If total PCB measurements are inaccurate and biased low the nature and extent of contamination and perceived risks in Area 6 may be underrepresented and remedial footprints may be artificially reduced. The future SRI Report should include a discussion on how the low bias in total PCB concentrations is being accounted for, and how data collected from Area 6 before and after implementation of the SOP will be integrated.



Commenting Organization: EGLE **Commenter:**

General Comment #5: EGLE thanks GP for their effort in developing this draft FSP. However, given the extensive heterogeneities present throughout the site, EGLE recommends a more straightforward assessment for delineating contaminant nature and extent in Area 6. The current FSP attempts to develop sampling programs predicated upon analyses of bedform types, transition zones, contaminant colocation, etc. Consequently, in order for this FSP to successfully and accurately meet its DQO overcomplicates, ALL of these underlying analyses, correlations, etc. must be correct. This creates on overly complex investigation prone to erroneous nature and extent delineation. EGLE proposes a systematic gridding of the site and sampling at a density of 1 core per 2 acres to inform this SRI, as opposed to relying upon multiple analyses and correlations to develop sample locations and analytes.

SPECIFIC COMMENTS

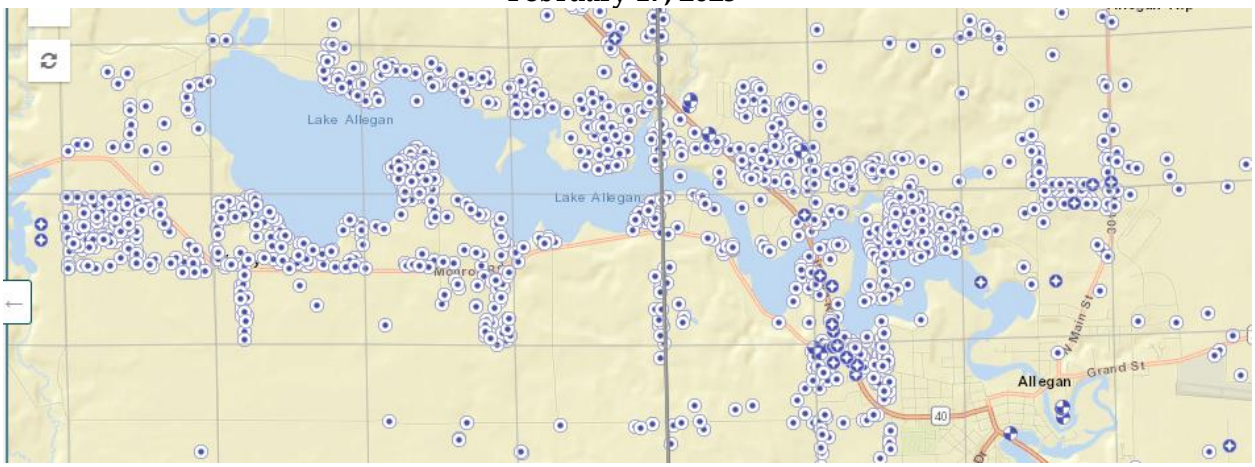
Commenting Organization: EGLE
Section: 1.1 **Page #: 1 - 1**
Specific Comment #1: The first paragraph of this section discusses the Calkins Bridge Dam history and planned operations. It is worth noting that Consumers Energy is undertaking a study to evaluate the future of its hydropower dams (including Calks Dam), and the options being evaluated include sale, relicensing, demolition, and replacement. The study began in the winter of 2022 and is expected to be complete in the first half of 2023. Insert text that discusses the evaluation of Calkins Dam. Revise the document accordingly.

Commenting Organization: EGLE
Section: 1.1 **Page #: 1-1**
Specific Comment #2: The last sentence of Section 1.1 that begins on page 1-4 and ends on page 1-5 states, "Public Water Supply use is not applicable in the Kalamazoo watershed because no communities withdraw water directly from surface waters (Kalamazoo River Watershed Council 2011)."

Public water supply use *is* applicable in the Kalamazoo River watershed, which drains an area of more than 2,000 square miles. An unknown but substantial number of drinking water wells are located within the watershed, and some are proximal to the Superfund site. For example, private residences in Area 6 and surrounding Lake Allegan utilize private wells for drinking water, municipalities have drinking water wells adjacent to Operable Unit 5 (OU5), and several small farms withdraw water directly from OU5 (the river) and use that water for irrigation. Private residences in other Areas of OU5 (i.e., Area 1) that are adjacent to or within the Superfund boundary also have private drinking water wells.

There are no municipal drinking water intakes on the river. However, the Kalamazoo River and saturated sediments could yield economically significant quantities of water. The main source of private and municipal drinking water in the Kalamazoo River watershed is from groundwater wells.

As shown on EGLE's water well viewer (https://www.mcgi.state.mi.us/waterwellviewer/), groundwater wells (household, irrigation, industrial, Type I, and Type II) dot the landscape throughout the watershed. Wellhead protection areas (WHPAs) for Type I water wells that provide drinking water for communities in upstream and downstream Areas of OU5 are located within or immediately adjacent to OU5 and other land-based OUs. In Area 6, most (if not all) of the residential properties that are located within or immediately adjacent to the Superfund site have a groundwater well, and there are a handful of Type I and Type II wells that are generally located along and east of highway M40.



It would be more accurate to state that the Kalamazoo River does not currently serve as a source for municipal water, and that municipalities and private residences along the Superfund site use groundwater as their primary source for drinking water. Add discussions on groundwater wells in Area 6, and the use of surface water from OU5 for the purposes of irrigation. Revise the document.

Commenting Organization: EGLE
Section: 1.2 **Page #: 1 - 2**
Specific Comment #3: The text notes that this field sampling plan document describes Phase 1, and "A second phase of SRI sampling (Phase II SRI Sampling) will fill data gaps remaining after Phase I SRI data collection and evaluation is complete." Multiple data gaps exist in this currently proposed Phase 1 which should be addressed now as opposed to some undetermined time in the future. Revisions to the sampling program to minimize data gaps should include the following:

1. For subaqueous sediments, particularly in larger, open areas (the basin and transition zone), an unbiased grid-based approach with sufficient density should be applied and would be preferable over the current approach for a few reasons. First, this type of dense sampling approach would be sufficient to give preliminary estimates of the nature and extent of contamination. Second, this type of approach would also ensure that large "hot spots" are not missed which can be an issue with random infill sampling around previously sampled points (which is the strategy currently being proposed). And, lastly, an unbiased, dense grid would also provide the data necessary to calculate SWACs over a meaningful scale(s) relevant to ecological and human health exposures. For the Phase 1 effort EGLE proposes a minimum density similar to what is proposed for the Phase 1 floodplain sampling (1 core per 2 acres) with the intent of infilling during Phase 2, as necessary. This approach would hopefully reduce the extent of any Phase 2 sampling effort.
2. The boundary of the transition zone should be adjusted and moved upstream to the Grand Street bridge, which is located just downstream of core location A6-SED-111. Aerial imagery suggests that this is the more likely extent of the influence of Calkins Dam, which will be a controlling factor in the deposition of contaminated sediments.
3. As an overarching comment, EGLE recommends that the results of the Area 5 SRI influence should not have too much influence over the Area 6 investigation process, particularly as it relates to assumptions about bank types and levels of contamination. A BIN-type approach could be used, but sample sizes would need to be sufficient to make sound, statistically based inferences which would require establishing data quality objectives (DQOs).

4. In the "riverine section" it appears that 1 core is proposed for approximately every 1,000-ft, which seems like a sufficient density for the Phase 1 sampling. However, the randomized approach to selecting sample locations results in cores being scattered across the width of the channel at roughly a 1,000-ft spacing. This process for placing samples may result in large areas being left unsampled and locations where thicker sediment deposits may be located (i.e., the channel margins) may not be characterized. Instead of placing a single core, EGLE recommends that three cores be collected across the channel (right margin-middle-left margin) at each proposed location, which would create transects that are spaced roughly 1,000-ft apart with three sample locations on each transect. Infill sampling would then be conducted during "Phase 2", as needed, to further delineate contamination in this reach.

Commenting Organization: EGLE
Section: 1.2 and 2.0 **Page #: 1-2 and 2-1**
Specific Comment #4: The last sentence in Section 1.2 states, "*The SRI sampling data will be used with the reconnaissance (Recon) data collected in 2022 and the monitored natural recovery (MNR) lines of evidence (LOE) data collected in 2018 and 2020 to prepare the SRI report and alternatives development/evaluation for the FS.*"

Later on in the document, in Section 2.0, the text states that data collection for the MNR LOE program began in 2016.

A few comments:

1. Data collection to support the MNR LOE program is being conducted under various work plans for abiotic and biotic media, and that effort is still ongoing.
2. All data collected under the MNR LOE program and other programs that are relevant to Area 6 (e.g., Long-Term Monitoring [LTM], carp removal, etc.) up to submission of the SRI FSP – Phase 1 (February 2023) should be considered and utilized for development of the sampling plan.
3. The SRI report must utilize all data collected under the MNR LOE program (and other relevant programs) up to submission of the report.
4. All data collected from Area 6 under various phases (i.e., pre-SRI and SRI) and work plans (i.e., MNR LOE, LTM, SWWP, OPTICS, carp removal, etc.) must be used in the SRI report to define the nature and extent of contamination and be incorporated into the Feasibility Study during the development of alternatives.

Global edits to the document are needed to address this comment. Revise the document accordingly.

Commenting Organization: EGLE
Section: 2.0 **Page #: 2 - 1**
Specific Comment #5: The text states: "High-resolution topobathymetric data were used to perform bedform mapping within the river and Lake Allegan." The text should provide clarification of how bathymetry would inform bedform mapping, especially at the level of detail discussed in the FSP. This type of bedform assignment is prone to qualitative assessments and, as such, inaccuracies. Furthermore, as observed in prior unsuccessful efforts to correlate bedform analyses to contaminant distributions at upstream portions of the site, bedforms should not be used to identify unbiased sampling locations for the SRI assessment of Area 6. Bedform analyses should only be used to select additional biased sampling locations once an unbiased sampling grid of adequate spatial density has been used to select the vast majority of sampling locations.

Commenting Organization: EGLE
Section: 2.1 **Page #: 2 - 1**
Specific Comment #6: The text states: "The current CSM hypothesizes that the three river sediment zones (riverine, transition, and lacustrine) have distinct depositional patterns and therefore were sampled with different sampling designs." EGLE recommends laying out a regular grid to sample Area 6, as presented in other comments of this set. EGLE does acknowledge, however, that an even greater sampling density may be preferred for the former channel in the main part of Lake Allegan. Revise the FSP accordingly.

Commenting Organization: EGLE
Section: 2.1.1 **Page #: 2 - 2**
Specific Comment #7: The text states: "Sediment sampling consisted of collecting a designated number of samples from each bedform type of at least 5 total acres in each zone." And "Bedforms of smaller acreages were not considered for Recon sampling because of their relative smaller sizes and lower frequencies compared to the larger bedforms and more frequently observed bedforms." Clarify how 5 acres was chosen as a threshold, as this number currently appears arbitrary and based upon a subjective decision. Such arbitrary size limitations should be avoided in any and all future investigations.

Commenting Organization: EGLE
Section: 2.1.1 **Page #: 2 - 2**
Specific Comment #8: The text states: "At each core location, a 4-inch-diameter, Lexan® sample tube was advanced to 12 feet (or refusal by physical obstruction) using a boat-mounted pneumatic drive core system." Clarify how 12 feet was chosen as a threshold, as this number currently appears arbitrary and based upon a subjective decision. Such arbitrary core depth limitations should be avoided in any and all future investigations.

Commenting Organization: EGLE
Section: 2.1.3 **Page #: 2 - 3**
Specific Comment #9: The text states: "Samples collected below Interval 5 were held by the laboratory and the next two intervals were released for analysis if results of the preceding interval exceeded the sediment preliminary remedial goal (PRG) of 0.33 milligram per kilogram (mg/kg) total PCBs established in upstream Areas." Given the potential for episodic sediment deposition, all cores intervals should be released for analyses to determine if discrete deeper contamination is present. The purpose of a Remedial Investigation to quantify contaminant extent. Failure to analyze all sediment core intervals given the episodic nature of sediment erosion/deposition in this system could easily result in unidentified contaminant inventory at lower sediment bed depths, as seen in upstream portions of the site when chemical analyses of cores were arbitrarily depth limited during initial investigations (e.g., Area 1 remediation, Area 4 TCRA removal). Such an approach of chemically analyzing all core intervals should be used in any and all future investigations.

Commenting Organization: EGLE
Section: 2.2 **Page #: 2 - 4**
Specific Comment #10: As an overarching comment, EGLE recommends that the results of the Area 5 SRI influence should not have too much influence over the Area 6 investigation process, particularly as it relates to assumptions about bank types and levels of contamination. A BIN-type approach could be used to evaluate the relationship between total PCBs and various bank types, but sample sizes would need to be sufficient to make sound, statistically based inferences which would

require establishing data quality objectives (DQOs). Revise the document to include DQOs for a statistically based approach to evaluate total PCBs by bank type.

Commenting Organization: EGLE
Section: 2.3 **Page #: 2 - 5**
Specific Comment #11: The beginning of Section 2-3, states:

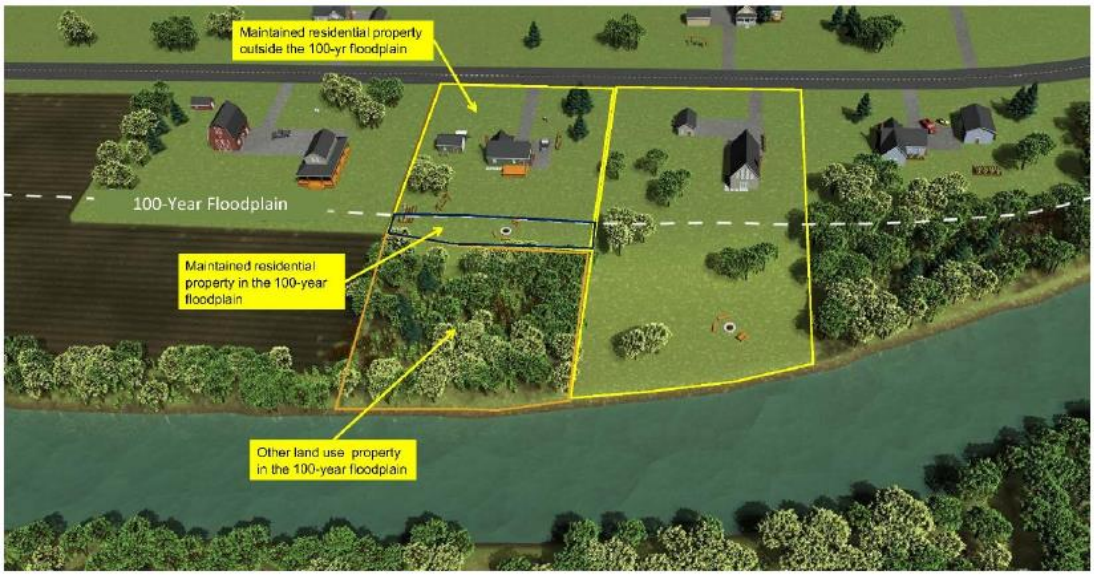
"A desktop evaluation was conducted to identify parcels that are currently or potentially future residential properties that should be sampled using incremental sampling methodology (ISM) and to screen out those properties that do not meet the criteria listed below. The desktop evaluation was conducted in ArcGIS using Allegan County tax parcels and the following criteria established in the Area 6 SRI/FS Work Plan (Wood 2022) and in upstream Areas:

- *Residential property (i.e., existing home, privately owned parcel) or zoned residential (note that residential zone by definition may include residential and/or recreational land use).*
- *Residential backyard with ≥0.25 acre within the study boundary and outside the shoreline.*
- *Approximately 100 feet or more of property adjoins the shoreline, and*
- *Sufficient distance from back of home and/or study boundary to the shoreline to constitute a backyard (>100 feet landward)*

Parcels identified by the ArcGIS desktop exercise were scrutinized further to eliminate parcels that met the above criteria but were unlikely to be current or future residential parcels. This included parcels with steep banks, are government-owned and are known to have recreational use or are planned for future recreational use, are oddly shaped and would be unlikely to be or become a residential backyard (e.g., >100 feet of shoreline but short distance landward), and/or believed to have non- residential activities on them (e.g., former manufacturing facilities).

The desktop exercise identified 10 parcels out of 646 parcels partially or wholly within the Area 6 study boundary which met the above criteria and were designated for confirmation via field reconnaissance."

The criteria used to scrutinize and eliminate parcels is inappropriate and may result in an insufficient number of properties being sampled. Many of these properties are zoned residential, have a home, and are actively maintained. Therefore, the entire property is residential and should be considered as such. The text must clearly describe uncertainties associated with future use of privately owned property rather than attempt to define future use. The text should discuss the differences between residential and recreational criteria, and the current status of each property that was noted during the reconnaissance (i.e., residential or commercial zoning, maintained or unmaintained, within or adjacent to 100-yr floodplain, etc.). Remove speculative statements and revise the document.



Commenting Organization: EGLE
Section: 2.4 **Page #: 2 - 6**
Specific Comment #12: The text states: "Four transducers were installed and surveyed to collect water level concentrations over time and/or during potential high water level events. USEPA was notified of the installation of these transducers in emails on August 31, 2020, and March 17, 2021."

Giving notification to the US EPA is an important step. However, these installations would also require an access agreement from the landowner and a permit from the Michigan Department of Natural Resources Law Enforcement Division (LED). Both of these agreements are also worth mentioning. Revise the document to reference approval from the landowner(s) and LED.

Commenting Organization: EGLE
Section: 3.1.1 **Page #: 3 - 1**
Specific Comment #13: The text states: "Sediment thickness was defined as the maximum of the sediment core drive depth and the soft sediment probe depths. … Within the riverine and transition zones, sediment thickness measurements ranged from 1.9 to 11.8 feet, …" 11.8 is essentially 12 feet, the limit of core depth. Logically, the sediment thickness at such locations is likely not fully known, as sediments could continue beyond the bottom of the core. Cores at such locations, and all future cores, should be revisited and driven through the entirety of the sediment bed. Otherwise, contaminant inventory in deeper intervals could be missed, as seen in upstream portions of the site.

Commenting Organization: EGLE
Section: 3.2.2 **Page #: 3 - 4**
Specific Comment #14: The text states: "Within the lacustrine zone, sediment thickness measurements ranged from 2.0 to 12.0 feet, …"12 feet is the limit of core depth. Logically, the sediment thickness at such locations is likely not fully known, as sediments could continue beyond the bottom of the core. Cores at such locations, and all future cores, should be revisited and driven through the entirety of the sediment bed. Otherwise, contaminant inventory in deeper intervals could be missed, as seen in upstream portions of the site.

Commenting Organization: EGLE
Section: 4.0 **Page #: 4 - 1**
Specific Comment #15: The text discusses the development of SWACs with the proposed resultant sampling data. The spatial density as currently proposed, especially for Lake Allegan, is insufficient to develop an accurate understanding of contaminant nature and extent or a resulting SWAC. Lake Allegan is approximately 1480 acres. The text on Page 5-3 states: "In total, 215 proposed Phase I sediment sample locations are in the lacustrine zone. These sample locations are shown on Figures 5-3a-b. In total, 328 core locations including the 40 cores from 2018 and 2020 and 73 cores from 2022 Recon, are anticipated in the lacustrine zone after the Phase event." At best, this results in a core sample density of 1 core per approximately 4.5 acres when combining multiple sample events. This is inadequate to accurately characterize nature and extent in this highly used recreational area. Increase the core spatial density in Lake Allegan, as detailed in EGLE's earlier comment.

Commenting Organization: EGLE
Section: 4.0 **Page #: 4 - 2**
Specific Comment #16: The text states: "Mature vegetation along much of the shoreline of Area 6 also suggests that the banks are generally stable." Bank stability should be confirmed with quantitative (e.g., erosion pins, topographic surveys) or semi-quantitative analyses (e.g., historical aerial photograph comparisons).

More information is currently known about potential stability issues with banks, and that information must be brought forward into the text. Specifically, the Phase 1 FSP includes Bank Questionnaire forms for bank locations that were observed during the reconnaissance. As shown in the forms, many banks had established vegetation but still showed signs of failure. The presence of vegetation does not preclude bank failures. Revise assumptions and subsequent proposed investigations accordingly.

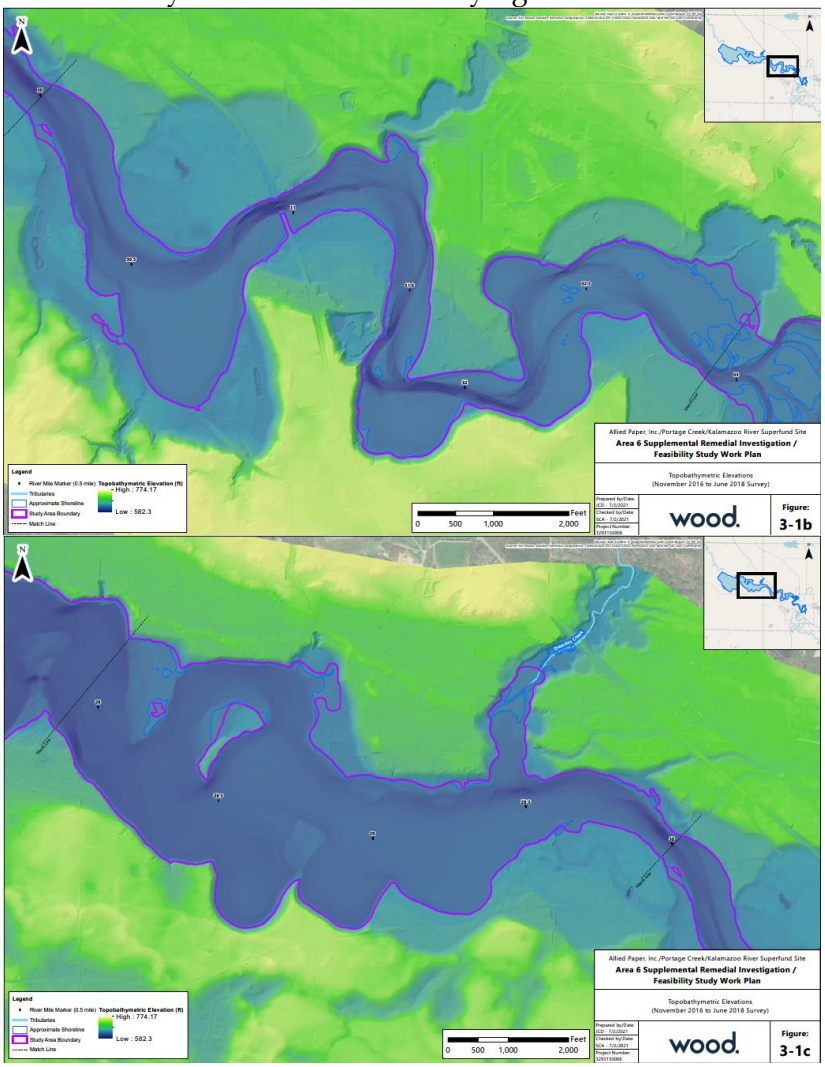
Commenting Organization: EGLE
Section: 4.2 **Page #: 4 - 4 , 4 - 5 , 4 - 6**
Specific Comment #17: The text notes TEQ distributions being of concern but discuss using colocation determinations and other analyses to determine where to sample Dioxins/Furans and Dioxin-like congeners. Rather than relying on co-location assumptions, soil samples with a range in elevation, spatial distribution of PCBs, range of PCB concentrations, and spatial coverage of Total TEQ samples, TEQ samples should be sampled for on a systematic basis. Not systematically sampling allows for increased opportunities that the nature and extent of TEQ will not be accurately or fully delineated. Revise the FSP to systematically sample for TEQ.

Commenting Organization: EGLE
Section: 4.2 **Page #: 4 - 5**
Specific Comment #18: The text states: "Collect data to support preliminary human health and ecological risk assessments." The FSP implies here and at other locations that risk assessments will be re-examined. Clarify if this the case.

Commenting Organization: EGLE
Section: 5.0 **Page #: 5 - 1**
Specific Comment #19: See EGLE's preceding comments regarding sample location selection.

Commenting Organization: EGLE
Section: Figure 3-14a and 3-14b **Page #: N A**
Specific Comment #20: A few comments on these figures:

1. The coarse conformal grid in Figure 3-14b does not extend to the site boundary. Extends the conformal grid up Dumont Creek to the site boundary.
2. Low-lying elevations that should be included in the site boundary appear to have been omitted. For example, there are low-lying areas between river mile (RM) 33 and 32.5, RM 32.5 to RM 30, and RM 30 to RM 28.5 that are not included in the site boundary. Revise the site boundary to include these low-lying areas.



3. The site boundary will need to be refined using data collected during the SRI/FS process. See General Comment #3.

EGLE Preliminary Comments on the Area 6 Phase 1 FSP

Peabody, Daniel (EGLE)

From: Hassett, Mike P <Mike.Hassett@gapac.com>
Sent: Thursday, January 19, 2023 9:36 AM
To: Saric, James; Draper, Cynthia E; Venne, Louise; Pauquette, Phil R
Cc: Peabody, Daniel (EGLE); Roberts, Keegan; Hutchinson, Tom/DET
Subject: RE: EGLE Comments on Proposed Sampling Locations for the Area 6 Phase 1 SRI Sampling

Thank you, Jim…and thank you, Dan. Received. We will review and incorporate into our planning.

Thanks to everyone for the feedback.

Best Regards,
Mike

From: Saric, James <saric.james@epa.gov>
Sent: Thursday, January 19, 2023 8:27 AM
To: Hassett, Mike P <Mike.Hassett@gapac.com>; Draper, Cynthia E <cynthia.draper@woodplc.com>; Venne, Louise <louise.venne@woodplc.com>; Pauquette, Phil R <phil.pauquette@woodplc.com>
Cc: Peabody, Daniel (EGLE) <peabodyd@michigan.gov>; Roberts, Keegan <robertsk@cdmsmith.com>; Hutchinson, Tom/DET <tom.hutchinson@jacobs.com>
Subject: FW: EGLE Comments on Proposed Sampling Locations for the Area 6 Phase 1 SRI Sampling

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Mike,

Attached are EGLE's comments on the Area 6 proposed Phase 1 SRI sampling locations. Please incorporate these into your sampling plan before submittal.

Thanks

Jim Saric
Remedial Project Manager
US EPA Region 5, Chicago
(312) 886-0992

From: Peabody, Daniel (EGLE) <PeabodyD@michigan.gov>
Sent: Thursday, January 19, 2023 7:00 AM
To: Saric, James <saric.james@epa.gov>
Cc: Hutchinson, Tom/DET <tom.hutchinson@jacobs.com>; Koster, Grant/DET <grant.koster@jacobs.com>; Roberts, Keegan <robertsk@cdmsmith.com>; John Kern <kernstat@gmail.com>; Wardah Azhar <azharw@cdmsmith.com>; Scott

Kirchner <kirchnersf@cdmsmith.com>; Bennett, Brian <BennettBJ@cdmsmith.com>; patricia.white@jacobs.com
Subject: EGLE Comments on Proposed Sampling Locations for the Area 6 Phase 1 SRI Sampling

Jim,

EGLE and our team have reviewed the figures provided for the Phase 1 Remedial Investigation sampling event that is tentatively scheduled to begin in May 2023. Our comments were developed based on what we have in-hand, which is just a few sets of figures and some "dots on a map". We also considered topics that were discussed during the Oct. 2022 work group meeting. Our comments and thoughts may change once we have received a formal plan that will clearly lay out how data will be used, and our review of the RI Field Sampling Plan(s) will be heavily focused on (among other things) the Data Quality Objectives (DQOs).

Once completed, the Remedial Investigation (RI) should be sufficient to define the nature and extent of contamination and provide the level of information necessary to calculate mean total PCB concentrations over spatial areas (SWACs) at a meaningful scale during the Feasibility Study. Based on our recent discussions, EGLE understands that the intent is to complete at least two rounds of sampling ("Phase 1" and "Phase 2"), but the goal is to collect the bulk of the information during Phase 1 such that Phase 2 is completed to address "data gaps" that are identified following completion of the Phase 1 RI sampling. This would suggest that the Phase 2 RI would generally be less intense than what is done during Phase 1. We have been provided a copy of the bathymetry data that was used to generate the bedforms; however, we are not aware of any independent review of the established bedforms that has been completed nor any considerations for changes in geomorphology that may be a controlling factor in contaminant distribution (e.g., changes in bed slopes) that have been incorporated. Both should be considered as part of the Phase 2 event.

Based on these goals and our review of what has been provided and is being proposed, we offer the following comments on the figure set that was provided.

1. For subaqueous sediments, particularly in larger, open areas (the basin and transition zone), an unbiased grid-based approach with sufficient density should be applied and would be preferable over the current approach for a few reasons. First, this type of dense sampling approach would be sufficient to give preliminary estimates of the nature and extent of contamination. Second, this type of approach would also ensure that large "hot spots" are not missed which can be an issue with random infill sampling around previously sampled points (which is the strategy currently being proposed). And, lastly, an unbiased, dense grid would also provide the data necessary to calculate SWACs over a meaningful scale. For the Phase 1 effort we would propose a *minimum* density similar to what is proposed for the Phase 1 floodplain sampling (1 core per 2 acres) with the intent of infilling during Phase 2, as necessary. I recognize this would be a large effort, however; this is a large area. Furthermore, this approach would hopefully reduce the extent of any Phase 2 sampling effort.
2. The boundary of the transition zone should be adjusted and moved upstream to the Grand Street bridge, which is located just downstream of core location A6-SED-111 in the figure set (Figure 1a). Aerial imagery suggests that this is the more likely extent of the influence of Calkins Dam, which will be a controlling factor in the deposition of contaminated sediments.
3. As an overarching comment, we should be careful not to let results of the Area 5 SRI influence too much of our thought process in Area 6, particularly as it relates to assumptions about bank types and levels of contamination. A BIN-type approach could be used, but sample sizes would need to be sufficient to make sound, statistically-based inferences which would require establishing DQOs.
4. In the "riverine section" it appears they have proposed 1 core every 1,000-ft or so. which seems like a sufficient density for the Phase 1 sampling. However, the randomized approach to placing samples results in cores being scattered across the width of the channel at roughly a 1,000-ft spacing. Similar to comment #1, this process for placing samples may result in large areas being left unsampled and locations where thicker sediment deposits may be located (i.e., the channel margins) may not be characterized. Instead of placing a single core, our preference here would be to collect three cores across the channel (right margin-middle-left margin) at each proposed location, which would create transects that are spaced roughly 1,000-ft apart with three sample

locations on each transect. Infill sampling would then be conducted during “Phase 2”, as needed, to further delineate contamination in this reach.

Thanks,

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